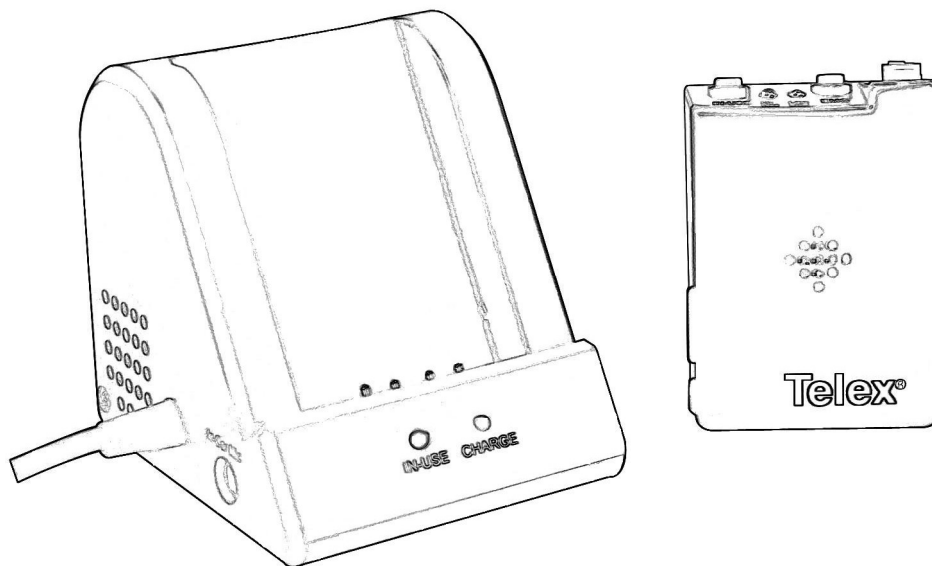


Telex® PW24N



**2.4GHZ WIRELESS SYSTEM FOR
POLICE VIDEO RECORDING**

USER GUIDE

TABLE OF CONTENTS

1.	Quick Set Up and Operation	3
2.	Installation	4
3.	Guidelines For Best Performance	6
4.	Troubleshooting Guide	7
5.	Technical Specifications.....	8
6.	Service and Warranty.....	9
7.	Components and Accessories	9

QUICK SET UP AND OPERATION

Synching Up The Transmitter and Base – The synch operation only needs to be performed the first time a system is used, or a new bodypack is used with a base previously synched to another bodypack. **Do not perform the synch operation multiple times; it only needs to be done one time when a new bodypack is used with a new base.**

- 1) Turn the transmitter power switch to ON and place the transmitter in the recharge cradle of the base. The transmitter goes in the base with the beltclip facing out.
- 2) The recharge LED will light (Green if fully charged, Red if charging). Leave the transmitter in the cradle for 4 hours for a full charge.
- 3) Press the In-Use button on the transmitter and hold until the In-Use LED on the transmitter and base start to flash, then release the button.
- 4) After a few seconds the light will stop flashing, and a beep will sound (If the beep is enabled).
- 5) The transmitter and base are now synched and will continue to be until another transmitter is linked to that base.

Normal Operation

- 1) With the transmitter synched up, remove it from the cradle, plug in the lapel microphone (if used) and place the transmitter on your belt.
- 2) To start the recording, press the In-Use button and the In-Use LED will light a constant green and you will hear a short beep
- 3) To end recording, press the In-Use button and the In-Use LED will turn off and you will hear a short beep.
- 4) At the end of your shift turn the transmitter off and replace it in the charging cradle.

Out of Range

- 1) If you use the Transmitter too far away from the Receiver during recording, the transmitter will alert you with Audible warning beeps (two tone) and the In-Use LED will blink in red.
- 2) Move closer to the receiver base and the link will be re-established once you return to normal range. The In-Use LED will light constant green when link is back to normal operation.
- 3) If the link is not re-established within 30 seconds, the transmitter and receiver will return to standby mode.
- 4) If you went out of range in Standby mode, or the unit reverted to standby mode, re-enter normal range and press the In-Use button. Operation will return to normal.
- 5) If you will be out of range for a long period of time, turn the bodypack off.

Low Battery Warning

- 1) If the transmitter Low BATT indicator (red) starts flashing or you hear warning beeps, return the transmitter to its cradle on the receiver to fully charge the transmitter.
- 2) The Charge LED indicator will light constant green when the unit is fully charged.

EMG Panic Button (if wired for use in your vehicle)

- 1) The EMG or Panic Button can be programmed to do many things but may not be connected in your vehicle. Check with your technical department to understand what this button will control before you use it.
- 2) In Record mode: Press the EMG button on the transmitter, a beep will sound and the relay will be triggered at the receiver.
- 3) In Standby mode: Press the EMG button on the transmitter, a beep will sound, the green In-Use indicator will blink and the relay will be triggered at the receiver.

Disabling the Beep Sound On the Transmitter

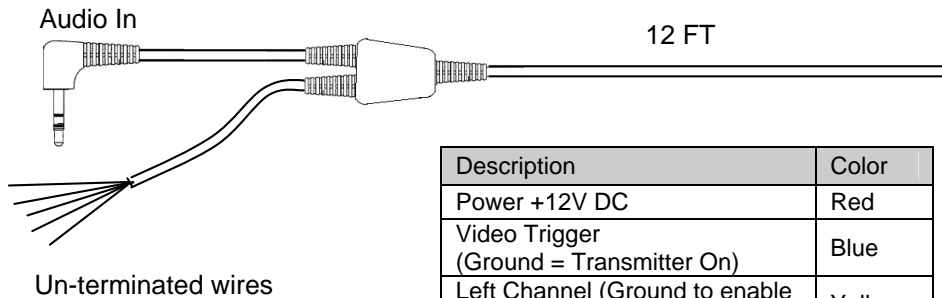
- 1) All of the audible beep signals on the transmitter can be disabled by setting the BEEP switch to the off position.

Auto Talk (if video recording equipment supports)

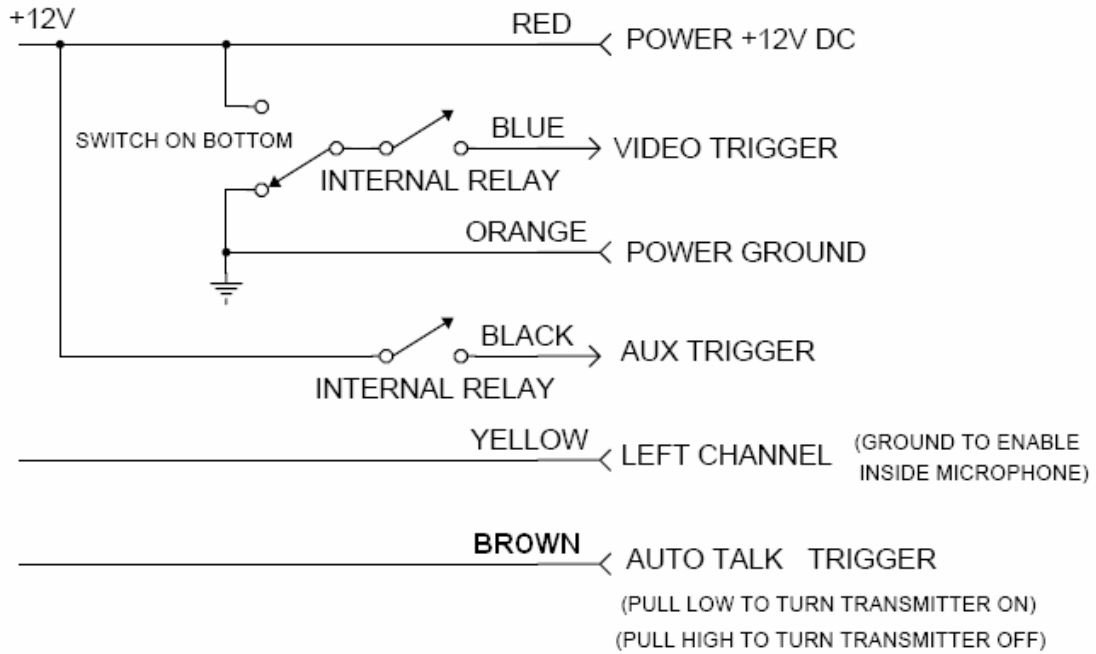
- 1) The Auto Talk feature is used to turn on the microphone whenever the video recorder is turned on. Some video record units can be triggered by other events (lights and siren being turned on etc.) and Auto Talk ensures the microphone starts recording at the same time. The transmitter must be turned on and in standby mode.
- 2) A +5V signal on the Auto Talk line means the microphone is off.
- 3) 0V or ground on the Auto Talk line turns on the microphone

INSTALLATION

1. Wire the un-terminated signal wires to the control unit according to the signal chart. A 5 Amp fast blow fuse is recommend in the 12VDC power supply line to protect the equipment.

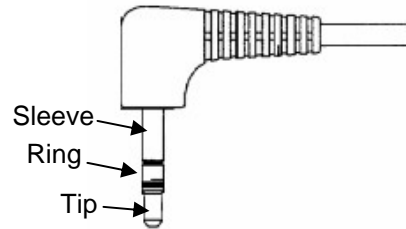


Description	Color
Power +12V DC	Red
Video Trigger (Ground = Transmitter On)	Blue
Left Channel (Ground to enable Inside Microphone)	Yellow
Power Ground	Orange
AUX (Panic) Trigger 12V+ DC Output when EMG button is pushed	Black
Auto Talk Trigger 5V+ DC to 0V to turn on mic 0V to 5V+DC to turn off mic	Brown



2. Plug the 3.5mm stereo plug into the audio input jack of the recording device.

Description	Position
Inside Car Mic Audio	Tip
Transmitter Audio	Ring
Audio Ground	Sleeve



3. If it is to be used, plug in the in-car microphone into the In-Car Mic jack in the side of the receiver base.
4. Turn on the transmitter and place it in the charging cradle with the beltclip facing out. The Charge LED will light if there is power. If the LEDs do not come on, check the connections and repeat.

Installation is complete. Refer to Operation Section for more information.

4) Guidelines and recommendations for best performance.

Compatibility

The transmitter and receiver must synchronize to work together (see Synch process on page 3). The synch operation only needs to be performed the first time a system is used, or when a new bodypack is used with a base previously synched to another bodypack. **Do not synch multiple times, just once until a new bodypack is used.** Any PR24N can be synchronized with any PB24N base.

Using Multiple Wireless Systems

The PW24N system has 95 possible “channels” that are really different frequency hopping schemes. Each synchronized base and transmitter will automatically find a clear channel so up to 40 systems can work together in one location depending on other interference problems.

Potential Sources of Interference

There are many potential sources of interference for your wireless system. Any electronic product that contains digital circuitry including digital signal processors (reverb/multi-effects units), electronic keyboards, digital lighting controllers, CD and DVD players, and computers, all emit RF energy that can adversely affect the performance of your wireless system. It is always best to place the receiver as far away as possible from these devices to minimize potential problems.

The PW24N operates in the 2.4MHz ISM band and other devices in that band may interfere. The spread spectrum technique used in the PW24N is very robust and should operate even in the presence of other 2.4MHz devices such as walkie-talkies, LANs, cordless phones, etc. in the area.

Battery Recommendations

The Lithium-Ion battery built into the PB24N transmitter will work at full capacity for over 500 charge cycles. If you notice lower than usual battery life over time, it may be time to replace the cell.

Warnings

Do not use this product in or near water, i.e. near a bathtub, sink, or swimming pool.

Do not use this product in the vicinity of a gas leak or to report a gas leak.

5) Trouble Shooting Guide

Problem	Possible Causes	Solutions
No audio and no In-Use LED light on the receiver when transmitter is on and In-Use	Receiver is not powered	Make sure that the power supply is properly connected
	Transmitter and receiver not synchronized	Turn on transmitter and place in recharge cradle. Press the In-Use button until the In-Use LEDs flash 3 and the pair will be synched
No (or low) Audio with all In-Use LEDs solid green	Lapel Microphone not connected or positioned properly	Check the mic connection and placement of the microphone
	Receiver audio output cable is damaged or disconnected	Connect, repair or replace cable
Interference	Another 2.4GHz device in the area causing interference.	Push the In-Use button twice and the PW24N will automatically select a clearer channel. If the interference is too strong, this may not completely eliminate it.
Short range or drop-outs	RF reflective metal obstacles between the transmitter and receiver	Move the obstacles, or reposition the receiver if possible
In-Use LED on beltpack flashes red and two tone beep sounds	Transmitter is out of range	Move closer to the receiver.
Variable synch times or failure to synch	Synch process run more than one time with same pair	Power cycle the base station and Synch one time.

PR24N RECEIVER BASE STATION

Controls

Video Trigger Active +12/GND

Indicators

IN-USE LED: GREEN
CHARGE LED: CHARGING -> RED
FULL CHARGED -> GREEN

Connections

In Car Mic 2.5mm Mono Plug
Un-terminated Cord
RED +12V DC Power
BLUE Microphone Trigger (Ground or 12VDC = Transmitter On)
BLACK AUX (Panic) Trigger (+12V when EMG is pushed)
YELLOW Left Channel (Inside Mic)
ORANGE Power Ground
BROWN Auto Talk (5V = mic off, 0V = mic on)
Audio Connector
Tip Inside Car Mic
Ring Transmitter Audio
Sleeve Audio Ground

RF Specifications

Frequency Range: 2.4GHz
Number of Channels: 95 possible
Diversity: Internal antenna
Receiver Type: Fast Frequency Hopping
RF Sensitivity: -102 +/-3 dBm(I,Q signal level at -3dB point))
FCC type acceptance: Approved under Part 15

Audio Specifications

Frequency Response: 200 ~ 4000Hz +/- 3 dB
Audio Output Level: 3.6Vp-p
Distortion: Less than 2%
Signal to Noise Ratio: > 40 dB
Dynamic Range: > 50 dB

General Specifications

Range 1000 feet typical in line of sight
Power Supply: External 12 VDC
Current Draw: 190mA Typical
Size: 2.75in x 2.99in x 3.15in
70mm x 76mm x 80mm
Weight 233 g

PB24N Bodypack Transmitter

Controls

On/Off Switch
Beep On/Off Switch
In Use Button
Emergency Button

Indicators

Red LED low battery indicator/Emergency indicator
Yellow LED In Use

Battery Internal Li-ion 3.7V/1200mAh cell

Battery Life 8 hours In Use with full charge
14days Standby

Battery Recharge Time 3.5 hours from full discharge

Antenna Internal

1.5mm Mic Connector Tip Signal, Sleeve Ground

Secondary Microphone Internal

RF Output 30 ~ 40 mW (typical)

Size: 2.5 in. x 1.8 in. x 0.94 in.

64 mm x 46 mm x 24 mm

Weight 74 g

Factory Service (North America)

If factory service is required, ship the unit prepaid in its original carton to:

Telex Audio Service
 c/o Telex Communications
 8601 East Cornhusker Highway
 Lincoln, NE 68507-9702 U.S.A.
 Tel: 402/467-5321 or 800-553-5992
 Fax: 402/467-3279

Enclose a note describing the problem along with any other pertinent information and how to contact you.

Warranty (Limited)

Telex products are guaranteed against malfunction due to defects in materials or workmanship for a specified period, as noted in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual, beginning with the date of original purchase. If such malfunction occurs during the specified period, the product will be repaired or replaced (at our option) without charge. The product will be returned to the customer prepaid via UPS Ground.

Exclusions and Limitations: The Limited Warranty does not apply to: (a) exterior finish or appearance; (b) certain specific described in the individual product-line statement(s) below, or in the individual product data sheet or owner's manual; (c) malfunction resulting from use or operation of the product other than as specified in the product data sheet or owner's manual; (d) malfunction resulting from misuse or abuse of the product; or (e) malfunction occurring at any time after repairs have been made to the product by anyone other than Electro-Voice or any of its authorized service representatives.

Obtaining Warranty Service: To obtain warranty service, the customer must deliver the product, prepaid, to Telex together with proof of purchase of the product in the form of a bill of sale or receipted invoice.

Incidental and Consequential Damages Excluded: Product repair or replacement and return to the customer are the only remedies provided to the customer. Telex shall not be liable for any incidental or consequential damages including, without limitation, injury to persons or property or loss of use.

Other Rights (United States Only): This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Telex 2.4GHz Wireless Systems are guaranteed against malfunction due to defects in materials or workmanship for a period of one (1) year from the date of original purchase. The Limited Warranty does not extend to cables or cable connectors. Additional details are included in the Uniform Limited Warranty Statement. Technical Assistance: 800-392-3497(U.S. and Canada only)

ACCESSORIES AND PARTS

Police Wireless PW24N		
Model	Part #	DESCRIPTION
PB24N	PRD00018001	Bodypack transmitter with internal microphone, internal Li-ion battery cell, belt clip, no microphone
PR24N	PRD00018000	Receiver and recharge station, un-terminated connection cable
TC-24	302039004	Optional TX Charger Base for PB24N
KT24-ML	302039007	Lapel Microphone for PB24N
PW24-MI	302039005	In Car Microphone